

Nuclear Regulatory Commission

§ 30.70

all the regulations in part 30 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations in part 30 that are not issued under sections 161b, 161i,

or 161o for the purposes of section 223 are as follows: §§30.1, 30.2, 30.4, 30.5, 30.6, 30.8, 30.11, 30.12, 30.13, 30.15, 30.16, 30.31, 30.32, 30.33, 30.37, 30.38, 30.39, 30.61, 30.62, 30.63, 30.64, 30.70, 30.71, and 30.72.

[57 FR 55072, Nov. 24, 1992]

SCHEDULES

§ 30.70 Schedule A—Exempt concentrations.

[See footnotes at end of this table]

Element (atomic number)	Isotope	Col. I	Col. II
		Gas concentration μCi/ml ¹	Liquid and solid concentration μCi/ ml ²
Antimony (51)	Sb 122 .....	.....	3×10^{-4}
	Sb 124 .....	.....	2×10^{-4}
	Sb 125 .....	.....	1×10^{-3}
Argon (18)	A 37	1×10^{-3}	5×10^{-3}
	A 41	4×10^{-7}	5×10^{-4}
Arsenic (33)	As 73 .....	.....	2×10^{-4}
	As 74 .....	.....	8×10^{-4}
	As 76 .....	.....	2×10^{-3}
	As 77 .....	.....	3×10^{-4}
Barium (56)	Ba 131 .....	.....	2×10^{-3}
Beryllium (4)	Be 7 .....	.....	2×10^{-2}
Bismuth (83)	Bi 206 .....	.....	4×10^{-4}
Bromine (35)	Br 82	4×10^{-7}	3×10^{-3}
Cadmium (48)	Cd 109 .....	.....	2×10^{-3}
Calcium (20)	Cd 115m .....	.....	3×10^{-4}
	Cd 115 .....	.....	3×10^{-4}
Carbon (6)	Ca 45 .....	.....	9×10^{-5}
	Ca 47 .....	.....	5×10^{-4}
Chromium (58)	C 14	1×10^{-6}	8×10^{-3}
Cesium (55)	Ce 141 .....	.....	9×10^{-4}
	Ce 143 .....	.....	4×10^{-4}
	Ce 144 .....	.....	1×10^{-4}
	Cs 131 .....	.....	2×10^{-2}
Chlorine (17)	Cs 134m .....	.....	6×10^{-2}
	Cs 134 .....	.....	9×10^{-5}
	Cl 38	9×10^{-7}	4×10^{-3}
Chromium (24)	Cr 51 .....	.....	2×10^{-2}
Cobalt (27)	Co 57 .....	.....	5×10^{-3}
	Co 58 .....	.....	1×10^{-3}
	Co 60 .....	.....	5×10^{-4}
Copper (29)	Cu 64 .....	.....	3×10^{-3}
Dysprosium (66)	Dy 165 .....	.....	4×10^{-3}
Erbium (68)	Dy 166 .....	.....	4×10^{-4}
	Er 169 .....	.....	9×10^{-4}
	Er 171 .....	.....	1×10^{-3}
Europium (63)	Eu 152	(T/2=9.2 Hrs.)	6×10^{-4}
Fluorine (9)	Eu 155 .....	.....	2×10^{-3}
	F 18	2×10^{-6}	8×10^{-3}
Gadolinium (64)	Gd 153 .....	.....	2×10^{-3}
Gallium (31)	Gd 159 .....	.....	8×10^{-4}
	Ga 72 .....	.....	4×10^{-4}
	Ge 71 .....	.....	2×10^{-2}
Germanium (32)	Au 196 .....	.....	2×10^{-3}
	Au 198 .....	.....	5×10^{-4}
	Au 199 .....	.....	2×10^{-3}
Gold (79)	Hf 181 .....	.....	7×10^{-4}
	H 3	5×10^{-6}	3×10^{-2}
Hafnium (72)	In 113m .....	.....	1×10^{-2}
	In 114m .....	.....	2×10^{-4}
Hydrogen (1)	I 126	3×10^{-9}	2×10^{-5}
	I 131	3×10^{-9}	2×10^{-5}
	I 132	8×10^{-8}	6×10^{-4}

§ 30.70

10 CFR Ch. I (1-1-06 Edition)

[See footnotes at end of this table]

Element (atomic number)	Isotope	Col. I	Col. II
		Gas concentration μCi/ml ¹	Liquid and solid concentration μCi/ ml ²
Iridium (77)	I 133	1×10 ⁻⁸	7×10 ⁻⁵
	I 134	2×10 ⁻⁷	1×10 ⁻³
	Ir 190 .....	.....	2×10 ⁻³
	Ir 192 .....	.....	4×10 ⁻⁴
	Ir 194 .....	.....	3×10 ⁻⁴
Iron (26)	Fe 55 .....	.....	8×10 ⁻³
	Fe 59 .....	.....	6×10 ⁻⁴
Krypton (36)	Kr 85m	1×10 ⁻⁶.	.....
	Kr 85	3×10 ⁻⁶.	.....
Lanthanum (57)	La 140 .....	.....	2×10 ⁻⁴
Lead (82)	Pb 203 .....	.....	4×10 ⁻³
Lutetium (71)	Lu 177 .....	.....	1×10 ⁻³
Manganese (25)	Mn 52 .....	.....	3×10 ⁻⁴
	Mn 54 .....	.....	1×10 ⁻³
	Mn 56 .....	.....	1×10 ⁻³
Mercury (80)	Hg 197m .....	.....	2×10 ⁻³
	Hg 197 .....	.....	3×10 ⁻³
	Hg 203 .....	.....	2×10 ⁻⁴
Molybdenum (42)	Mo 99 .....	.....	2×10 ⁻³
Neodymium (60)	Nd 147 .....	.....	6×10 ⁻⁴
	Nd 149 .....	.....	3×10 ⁻³
Nickel (28)	Ni 65 .....	.....	1×10 ⁻³
Niobium (Columbium) (41)	Nb 95 .....	.....	1×10 ⁻³
Osmium (76)	Nb 97 .....	.....	9×10 ⁻³
	Os 185 .....	.....	7×10 ⁻⁴
Osmium (76)	Os 191m .....	.....	3×10 ⁻²
	Os 191 .....	.....	2×10 ⁻³
	Os 193 .....	.....	6×10 ⁻⁴
Palladium (46)	Pd 103 .....	.....	3×10 ⁻³
Phosphorus (15)	P 32 .....	.....	9×10 ⁻⁴
Platinum (78)	Pt 191 .....	.....	2×10 ⁻⁴
	Pt 193m .....	.....	1×10 ⁻³
Platinum (78)	Pt 197 .....	.....	1×10 ⁻²
	Pt 197m .....	.....	1×10 ⁻²
	Pt 197 .....	.....	1×10 ⁻³
Potassium (19)	K 42 .....	.....	3×10 ⁻³
Praseodymium (59)	Pr 142 .....	.....	3×10 ⁻⁴
Promethium (61)	Pr 143 .....	.....	5×10 ⁻⁴
	Pm 147 .....	.....	2×10 ⁻³
Rhenium (75)	Pm 149 .....	.....	4×10 ⁻⁴
Rhodium (45)	Re 183 .....	.....	6×10 ⁻³
	Re 186 .....	.....	9×10 ⁻⁴
Rhodium (45)	Re 188 .....	.....	6×10 ⁻⁴
	Rh 103m .....	.....	1×10 ⁻¹
Rubidium (37)	Rh 105 .....	.....	1×10 ⁻³
	Rb 86 .....	.....	7×10 ⁻⁴
Ruthenium (44)	Ru 97 .....	.....	4×10 ⁻⁴
	Ru 103 .....	.....	8×10 ⁻⁴
Samarium (62)	Ru 105 .....	.....	1×10 ⁻³
	Ru 106 .....	.....	1×10 ⁻⁴
Scandium (21)	Sm 153 .....	.....	8×10 ⁻⁴
	Sc 46 .....	.....	4×10 ⁻⁴
Selenium (34)	Sc 47 .....	.....	9×10 ⁻⁴
	Sc 48 .....	.....	3×10 ⁻⁴
Silicon (14)	Se 75 .....	.....	3×10 ⁻³
	Si 31 .....	.....	9×10 ⁻³
Silver (47)	Ag 105 .....	.....	1×10 ⁻³
	Ag 110m .....	.....	3×10 ⁻⁴
Sodium (11)	Ag 111 .....	.....	4×10 ⁻⁴
	Na 24 .....	.....	2×10 ⁻³
Strontium (38)	Sr 85 .....	.....	1×10 ⁻⁴
	Sr 89 .....	.....	1×10 ⁻⁴
Sulfur (16)	Sr 91 .....	.....	7×10 ⁻⁴
	Sr 92 .....	.....	7×10 ⁻⁴
Tantalum (73)	S 35	9×10 ⁻⁸	6×10 ⁻⁴
Technetium (43)	Ta 182 .....	.....	4×10 ⁻⁴
	Tc 96m .....	.....	1×10 ⁻¹
Tellurium (52)	Tc 96 .....	.....	1×10 ⁻³
	Te 125m .....	.....	2×10 ⁻³

Nuclear Regulatory Commission

§ 30.71

[See footnotes at end of this table]

Element (atomic number)	Isotope	Col. I	Col. II
		Gas concentration μCi/ml ¹	Liquid and solid concentration μCi/ ml ²
Terbium (65)	Te 127m .....	.....	6×10 ⁻⁴
Thallium (81)	Te 127 .....	.....	3×10 ⁻³
	Te 129m .....	.....	3×10 ⁻⁴
	Te 131m .....	.....	6×10 ⁻⁴
	Te 132 .....	.....	3×10 ⁻⁴
	Tb 160 .....	.....	4×10 ⁻⁴
	Tl 200 .....	.....	4×10 ⁻³
	Tl 201 .....	.....	3×10 ⁻³
	Tl 202 .....	.....	1×10 ⁻³
	Tl 204 .....	.....	1×10 ⁻³
Thulium (69)	Tm 170 .....	.....	5×10 ⁻⁴
Tin (50)	Tm 171 .....	.....	5×10 ⁻³
	Sn 113 .....	.....	9×10 ⁻⁴
	Sn 125 .....	.....	2×10 ⁻⁴
Tungsten (Wolfram) (74)	W 181 .....	.....	4×10 ⁻³
	W 187 .....	.....	7×10 ⁻⁴
Vanadium (23)	V 48 .....	.....	3×10 ⁻⁴
Xenon (54)	Xe 131m	4×10 ⁻⁶ ,	1×10 ⁻³
	Xe 133	3×10 ⁻⁶ ,	2×10 ⁻⁴
	Xe 135	1×10 ⁻⁶ ,	3×10 ⁻⁴
Ytterbium (70)	Yb 175 .....	.....	2×10 ⁻⁴
Yttrium (39)	Y 90 .....	.....	2×10 ⁻²
	Y 91m .....	.....	3×10 ⁻²
	Y 91 .....	.....	3×10 ⁻⁴
	Y 92 .....	.....	6×10 ⁻⁴
Zinc (30)	Y 93 .....	.....	3×10 ⁻⁴
	Zn 65 .....	.....	1×10 ⁻³
	Zn 69m .....	.....	7×10 ⁻⁴
Zirconium (40)	Zn 69 .....	.....	2×10 ⁻²
	Zr 95 .....	.....	6×10 ⁻⁴
Beta and/or gamma emitting byproduct material not listed above with half-life less than 3 years.	Zr 97	1×10 ⁻¹⁰	2×10 ⁻⁴
			1×10 ⁻⁶

Footnotes to Schedule A:

¹Values are given only for those materials normally used as gases.

²μCi/gm for solids.

NOTE 1: Many radioisotopes disintegrate into isotopes which are also radioactive. In expressing the concentrations in Schedule A, the activity stated is that of the parent isotope and takes into account the daughters.

NOTE 2: For purposes of § 30.14 where there is involved a combination of isotopes, the limit for the combination should be derived as follows:

Determine for each isotope in the product the ratio between the concentration present in the product and the exempt concentration established in Schedule A for the specific isotope when not in combination. The sum of such ratios may not exceed "1" (i.e., unity).

Example:

$$\frac{\text{Concentration of Isotope A in Product}}{\text{Exempt concentration of Isotope A}} + \frac{\text{Concentration of Isotope B in Product}}{\text{Exempt concentration of Isotope B}} < 1 =$$

[30 FR 8185, June 26, 1965, as amended at 35 FR 3982, Mar. 3, 1970; 38 FR 29314, Oct. 24, 1973;
59 FR 5520, Feb. 7, 1994]

§ 30.71 Schedule B.

Byproduct material	Microcuries	Byproduct material	Microcuries
Antimony 122 (Sb 122)	100	Bismuth 210 (Bi 210)	1
Antimony 124 (Sb 124)	10	Bromine 82 (Br 82)	10
Antimony 125 (Sb 125)	10	Cadmium 109 (Cd 109)	10
Arsenic 73 (As 73)	100	Cadmium 115m (Cd 115m)	10
Arsenic 74 (As 74)	10	Cadmium 115 (Cd 115)	100
Arsenic 76 (As 76)	10	Calcium 45 (Ca 45)	10
Arsenic 77 (As 77)	100	Calcium 47 (Ca 47)	10
Barium 131 (Ba 131)	10	Carbon 14 (C 14)	100
Barium 133 (Ba 133)	10	Cerium 141 (Ce 141)	100
Barium 140 (Ba 140)	10	Cerium 143 (Ce 143)	100
		Cerium 144 (Ce 144)	1
		Cesium 131 (Cs 131)	1,000